

Chapter 1 Introduction

Disaster Mitigation Act of 2000

§201.4(c)(6): A Plan Adoption Process. The plan must be formally adopted by the State prior to submittal to us for final review and approval.

§201.4(c)(7): The plan must include assurances that the State will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with 44 CFR 13.11(c). The State will amend its plan whenever necessary to reflect changes in State or Federal laws and statutes as required in 44 CFR 13.11(d).

1.1 Purpose of the State Hazard Mitigation Plan

The Commonwealth of Virginia Emergency Operations Plan, Volume 2, Support Annex 3 - Standard and Enhanced Hazard Mitigation Plan provides guidance for hazard mitigation within the Commonwealth. Its vision is supported by goals, objectives and strategies for Virginia state government that will reduce or prevent injury from natural hazards to citizens and critical state facilities. This plan is supplemented by: agency Continuity of Operations Plans, agency strategic plans, and the multi-volume Commonwealth of Virginia Emergency Operations Plan.

This plan fulfills the standard state mitigation planning requirements (44 CFR §201.4) of the Disaster Mitigation Act of 2000 (DMA2K; Public Law 106-390, signed into law October 10, 2000). The DMA2K amends the 1988 Robert T. Stafford Disaster Relief and Emergency Assistance Act, and reinforces the importance of mitigation planning, emphasizing planning for disasters before they occur. Section 322 of the act specifically addresses mitigation planning at state and local levels. New requirements are identified that allow Hazard Mitigation Grant Program (HMGP) funds to be used for mitigation activities and projects for states and localities with Hazard Mitigation Plans approved by November 1, 2004. States that have developed a comprehensive, *enhanced* mitigation plan prior to a disaster will qualify for higher levels of HMGP funding. The Commonwealth of Virginia Hazard Mitigation Plan is a standard plan meeting the requirements for A Standard State Plan detailed in Interim Rule 44 CRF 201.4, published by the Federal Emergency Management Agency February 28, 2004 and revised November 2, 2006. The Standard Plan was first approved by FEMA Region III on September 28, 2004. The Commonwealth received approval of its enhanced plan status through submittal of Chapter 7 of this plan on March 14, 2007. The approval letter may be found in Enhanced Appendix 1. The Commonwealth received approval of a reduced cost share (90/10) for grants awarded under the FMA and SRL programs on May 30, 2008.

Meeting the requirements and criteria of section 322 regulations and rules qualifies the Commonwealth to obtain all disaster-related assistance including categories C through G of the Public Assistance Program. This is an essential component of disaster recovery.



In addition, the Commonwealth will remain eligible for Hazard Mitigation Grant Program funds and the nationally competitive Pre-disaster Mitigation Program.

This plan is one of multiple volumes that together constitute the *Commonwealth of Virginia Emergency Operations Plan* (COVEOP). The *Basic Plan* and its sub plans listed below are maintained by state agencies with emergency management duties and responsibilities. Selected parts of these plans are available online for viewing or download from the Virginia Department of Emergency Management Online Library at <http://www.vaemergency.com/library/eplan.cfm>. Reference copies of Volumes also are available at community college and public university libraries statewide. Distribution of Volumes 4 and 7 is limited to specific individuals and user groups.

All volumes of the COVEOP have been revised or are currently under revision to assure, among many things, full compliance with the National Response Plan and Continuity of Operations Planning. In addition, the plans are being cross-walked and fully integrated through the current revision of Volume 1 – Basic Plan and Volume 2-Emergency Support Functions and Support Annexes.

The volumes that comprise the entire Commonwealth of Virginia EOP include:

Table 1-1 <i>Commonwealth Emergency Operations Plan</i>	
Volume	Title
1	<i>Basic Plan</i>
2	<i>Emergency Support Functions and Support Annexes</i>
3	<i>Radiological Emergency Response</i>
4	<i>Hazardous Materials and Terrorism Consequence Management</i>
5	<i>Virginia Hurricane Emergency Response</i>
7	<i>Virginia Department of Transportation Emergency Operations</i>

Sine mitigation terms are used throughout the field of emergency management, Appendices A and B provide listings of acronyms and a glossary of terms. The table that follows provides a more detailed listing of hazards as addressed by the *Commonwealth Emergency Operations Plan*.

**Table 1-2: Hazard Events Addressed by Volumes of EOP;
November 1, 2006**

EVENT	Virginia EOP Volume(s)	1 - Basic Plan	2 - Emergency Support Functions and Annexes	3 - Radio-logical	4 - Hazardous Materials and Terrorism Consequence Management	5 - Hurricane	7 - Transportation
Natural Hazards	2		X				
Blizzard/Ice/Winter Storms	2		X				
Coastal/Shoreline Erosion	1, 2, 5	X	X			X	
Dam Failure	1, 2	X	X				
Drought	2		X				
Earthquake	2		X				
Coastal Flooding	2, 5		X			X	
Riverine Flooding	2, 5		X			X	
Windstorms	2, 5		X			X	
Tropical Depressions	2, 5		X			X	
Tropical Storms	2, 5		X			X	
Hurricanes, Cat 1	2, 5		X			X	
Hurricanes, Cat 2	2, 5		X			X	
Hurricanes, Cat 3	2, 5		X			X	
Land Subsidence/Karst	2		X				
Landslides	2		X				
Northeasters	2, 5		X			X	
Tornadoes, F0	2		X				
Tornadoes, F1	2		X				
Tornadoes, F2	2		X				
Wildfire	1, 2	X	X				
Human Hazards	1, 4	X			X		
Agricultural production losses	1	X					
Civil Disturbance / Riots	1	X					
Foreign Attack	1	X					
Natural Habitat losses	1	X					
Terrorism – Biochemical	4				X		
Terrorism – Conventional Weapons	4				X		
Terrorism – Nuclear	4				X		
Terrorism – Radiological	4				X		
Terrorism – Technological	4				X		
Cyber Attack	4				X		
Structural Collapse	1, 4	X					X



Table 1-2: Hazard Events Addressed by Volumes of EOP; November 1, 2006							
EVENT	Virginia EOP Volume(s)	1 - Basic Plan	2 - Emergency Support Functions and Annexes	3 - Radio-logical	4 - Hazardous Materials and Terrorism and Consequence Management	5 - Hurricane	7 - Transportation
Technological Hazards	1, 3	X		X			
Energy/fuel/resource shortage	1	X					
Industrial Accidents	1	X					
Infrastructure failure -- power grid	1	X					
Infrastructure failure -- telephone/cell service	1	X					
Infrastructure failure -- water supply	1	X					
Radiological/Nuclear Event	3			X			
Hazardous Materials	4, 7				X		X
Hazmat -- Pipeline event	4				X		
HazMat -- Site-specific event	4				X		
Hazmat -- Transportation event	4				X		
Air Pollution	4				X		
Transportation Accident -- Airline	4				X		
Transportation Accident -- Marine	4, 7				X		X
Transportation Accident -- Motor Vehicle	4, 7				X		X
Water Pollution -- surface water	4				X		
Water pollution -- groundwater	4				X		

Authority to implement the plan was further clarified beyond the *Code of Virginia* through Executive Order 73 (97). This Executive Order, issued by Governor George Allen, was rescinded by Executive Order 65(2004), issued by Governor Mark Warner, found on pages 1-6 and 1-7. This Executive Order reflects *Code of Virginia* amendments and amendments to the Emergency Operations Plan. The present Executive Order covers all revisions to the plan to date, including those to Volume 2, Support Annex 3. A new Executive Order by Governor Tim Kaine will be issued later this year following the revision of Volumes 1 and 2.

COMMONWEALTH OF VIRGINIA



OFFICE OF THE GOVERNOR *Executive Order 73 (97)*

PROMULGATION OF THE COMMONWEALTH OF VIRGINIA EMERGENCY OPERATIONS PLAN

By virtue of the authority vested in me by Section 44-146.17 of the Code of Virginia as Governor and as Director of Emergency Services, I hereby promulgate and issue the Commonwealth of Virginia Emergency Operations Plan ("the Plan"), dated 1997, which provides for a state government response to emergencies and disasters wherein assistance is needed by affected local governments in order to save lives; to protect public health, safety, and property; to restore essential services; and to effect an economic recovery.

The State Coordinator of Emergency Services, on behalf of the Governor, is hereby authorized to activate the State Emergency Operations Center (EOC) in order to direct and control state government emergency operations. Activation of the State EOC shall constitute implementation of the Plan.

In accordance with the duties and responsibilities assigned in the plan, each designated state department or agency shall:

- (1) prepare and maintain the part(s) of the Plan for which it is responsible
- (2) conduct an on-going training program and participate in exercises as needed in order to maintain an appropriate emergency response capability;
- (3) in time of emergency, implement emergency response actions as required and in coordination with the State EOC; and
- (4) assist with post-disaster restoration and recovery operations as required.

The Plan is consistent with the Commonwealth of Virginia Emergency Services and Disaster Law of 1973 (Chapter 3.2, Title 44 of the *Code of Virginia*) and the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288, as amended) and its implementing regulations.

This Executive Order rescinds the following three Executive Orders issued in 1990 by Governor Lawrence Douglas Wilder: Number 19 (90), Promulgation of Volume II, Emergency Operations Plan for Peacetime Disasters; Number 20 (90), Promulgation of the Commonwealth of Virginia Emergency Operations Plan, Volume III, Operational Survival Plan for War-Caused Disasters; and Number 26 (90), Promulgation of the Commonwealth of Virginia Emergency Operations Plan, Closing of the Chesapeake Bay Bridge-Tunnel.

This Executive Order shall be effective upon its signing and shall remain in full force and effect until amended or rescinded by further executive order.

Given under my hand and under the seal of the Commonwealth of Virginia this 9th day of May, 1997.

George Allen
Governor

Attest:
Betsy Davis Beamer
Secretary of the Commonwealth



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*Commonwealth of Virginia
Office of the Governor*

Executive Order

NUMBER SIXTY-FIVE (2004)

PROMULGATION OF THE COMMONWEALTH OF VIRGINIA EMERGENCY OPERATIONS PLAN

By virtue of the authority vested in me by Section 44-146.17 of the Code of Virginia as Governor and as Director of Emergency Management, I hereby promulgate and issue the Commonwealth of Virginia Emergency Operations Plan ("the Plan") dated 2004. The Plan provides for state government's response to emergencies and disasters wherein assistance is needed by affected local governments in order to save lives; to protect public health, safety, and property; to restore essential services; and to enable and assist with economic recovery.

The State Coordinator of Emergency Management, on behalf of the Governor, is hereby authorized to activate the Commonwealth of Virginia Emergency Operations Center ("State EOC") in order to direct and control state government emergency operations. Activation of the State EOC shall constitute implementation of the Plan.

In accordance with the duties and responsibilities assigned in the Plan, the head of each designated state department or agency shall appoint a lead and at least one alternate Emergency Coordination Officer for the agency. The Emergency Coordination Officer is assigned the following responsibilities:

1. Coordinate with the Department of Emergency Management on emergency preparedness, response, and recovery issues;
2. Prepare and maintain designated parts of the Plan for which the agency is responsible;
3. Prepare and maintain internal plans and procedures to fulfill the responsibilities designated in the Plan;



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Executive Order 65 (2004)

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4. Maintain a roster of agency personnel to assist in disaster operations and ensure that persons on the roster are accessible and available for training, exercises, and activations of the Plan;
5. Coordinate appropriate training for agency personnel assigned to disaster operations;
6. Prepare and maintain internal emergency preparedness, response, and recovery plans for the agency's resources (facilities, personnel, and assets) that outline a comprehensive and effective program to ensure continuity of essential state functions under all circumstances;
7. Assure the State Coordinator of Emergency Management that preparedness plans for its facilities are coordinated with the applicable local emergency management agency.

The Plan is consistent with the Commonwealth of Virginia Emergency Services and Disaster Law of 2000 (Chapter 3.2, Title 44 of the Code of Virginia, as amended) and the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288, as amended) with its implementing regulations.

This Executive Order rescinds Executive Order Number Seventy-three (97) issued on May 9, 1997, by Governor George Allen.

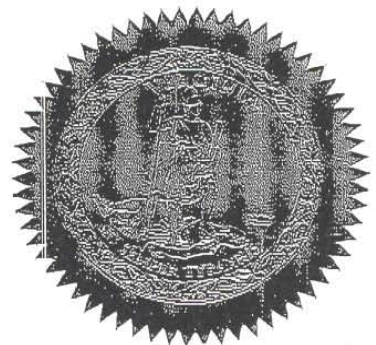
This Executive Order shall be effective upon its signing and shall remain in full force and effect until amended or rescinded by further executive order.

Given under my hand and under the Seal of the Commonwealth of Virginia, this 1st day of April 2004.


Mark R. Warner, Governor

Attest:


Secretary of the Commonwealth



Executive Order 2007

Promulgation of the Commonwealth of Virginia Emergency Operations Plan

By virtue of the authority vested in me by Section 44-146.17 of the Code of Virginia as Governor and as Director of Emergency Management, I hereby promulgate and issue the Commonwealth of Virginia Emergency Operations Plan ("the Plan") dated 2007. The Plan provides for state government's response to emergencies and disasters wherein assistance is needed by affected local governments in order to save lives; to protect public health, safety, and property; to restore essential services; and to enable and assist with economic recovery.

The Plan is consistent with the Commonwealth of Virginia Emergency Services and Disaster Law of 2000 (Chapter 3.2, Title 44 of the Code of Virginia, as amended), the National Incident Management System as implemented in the National Response Plan adopted December 2004, and the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288, as amended) with its implementing regulations.

The State Coordinator of Emergency Management, on behalf of the Governor, is hereby authorized to activate the Commonwealth of Virginia Emergency Operations Center ("Virginia EOC") in order to direct and control state government emergency operations. Augmentation of the Virginia EOC shall constitute implementation of the Plan.

Furthermore, the State Coordinator of Emergency Management is hereby authorized, in coordination with the Governor's Office, to amend the Plan as necessary in order to achieve the Preparedness Goals and Initiatives of the Nation and this Commonwealth and in accordance with the Commonwealth of Virginia Emergency Services and Disaster Law of 2000 (Chapter 3.2, Title 44 of the Code of Virginia, as amended).

In accordance with the duties and responsibilities assigned in the Plan, the head of each designated state department or agency shall appoint a lead and at least one alternate Emergency Coordination Officer for the

agency. The Emergency Coordination Officer is assigned the following responsibilities:

1. Coordinate with the Department of Emergency Management on emergency preparedness, response, and recovery issues;
2. Prepare and maintain designated parts of the Plan for which the agency is responsible;
3. Prepare and maintain internal plans and procedures to fulfill the responsibilities designated in the Plan;
4. Maintain a roster of agency personnel to assist in disaster operations and ensure that persons on the roster are accessible and available for training, exercises, and activations of the Plan;
5. Coordinate appropriate training for agency personnel assigned to disaster operations;
6. Prepare and maintain internal emergency preparedness, response, and recovery plans for the



agency's resources (facilities, personnel, and assets) that outline a comprehensive and effective program to ensure continuity of essential state functions under all circumstances;

7. Assure the State Coordinator of Emergency Management that preparedness plans for its facilities are coordinated with the applicable local emergency management agency.

This Executive Order rescinds Executive Order Number Sixty Five (65) issued on April 1, 2004, by Governor Mark Warner and Executive Order Number Forty One (41) issued on May 17, 1999, by Governor James Gilmore.

This Executive Order shall be effective upon its signing and shall remain in full force and effect until amended or rescinded by further executive order.

Given under my hand and under the Seal of the Commonwealth of Virginia, this 21st day of December 2007.

/s/ Timothy M. Kaine, Governor

Attest:

/s/ Secretary of the Commonwealth

1.2 Disaster Mitigation Act of 2000 and Implementing Regulations

Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act or the Act), 42 U.S.C. 5165, was enacted under § 104 of the Disaster Mitigation Act of 2000, (DMA 2000) Public Law 106-390. DMA 2000 was intended to facilitate cooperation between state and local authorities. It encourages and rewards local and state disaster planning in advance of disasters in order to promote sustainability of communities and services as a strategy to improve disaster resistance. This enhanced pre-disaster planning effort is intended to support state and local governments' efforts to articulate accurate, targeted and prioritized needs for hazard mitigation that will reduce exposure to natural hazards. This planning effort will result in timely allocation of funding and more effective risk reduction strategies and projects.

FEMA prepared an Interim Final Rule, published in the Federal register on February 26, 2002 within 44 CFR Parts 201 and 206 that establishes planning and funding criteria for states. The Standard Plan Crosswalk may be found in Appendix J.

44 CFR Part 201

44 CFR § 201.1 *et seq.* was promulgated by the Federal Emergency Management Agency, (FEMA) on February 26, 2002 in order to implement DMA 2000. The interim final rule was amended several times to address standard and enhanced state plans during 2007. Guidance for local plans is pending as of February, 2008. In addition, guidance for the Severe Repetitive Loss and Flood Mitigation Assistance Programs (44 CFR § 201.4 *et seq.*) requires amendment of state plans per a new crosswalk for these programs issued on January 14, 2008. Therefore, the Virginia Hazard Mitigation Plan is being revised to meet crosswalk criteria and to include Governor Tim Kaine's Executive Order that most recently adopted the Commonwealth of Virginia Emergency Operation Plan, which includes the hazard mitigation plan. The rule addresses state mitigation



planning, and specifically in 44 CFR § 201.3 (c) identifies the states' mitigation planning responsibilities, which include:

- 1) Prepare and submit to FEMA a Standard Hazard Mitigation Plan following criteria established in 44 CFR § 201.4 as a condition of receiving Stafford Act assistance (except emergency assistance).
- 2) For consideration for 20% Hazard Mitigation Grant Program funding, prepare and submit an Enhanced State Mitigation Plan in accordance with 44 CFR § 201.5, which must be reviewed and updated, if necessary, every three years from the date of the approval of the previous plan.
- 3) Review and if necessary, update the Standard State Mitigation Plan by November 1, 2004, and every three years from the date of approval of the previous plan in order to continue program eligibility.
- 4) Make available the use of up to the seven percent of HMGP funding for planning in accordance with 44 CFR § 206.434. See 44 CFR § 201.3 (c).

44 CFR § 201.4, *Standard State Mitigation Plans*, lists the required elements of state hazard mitigation plans. Under 44 CFR § 201.4 (a), by November 1, 2004 states must have an approved Standard State Hazard Mitigation Plan that meets the requirements of the regulation to receive Stafford Act assistance. The planning process, detailed by 44 CFR § 201.4 (b), must include coordination with other state agencies, appropriate Federal agencies and interested groups.

44 § 201.4 (c), "Plan content," identifies the following elements that must be included in a state hazard mitigation plan:

- 1) A description of the planning process used to develop the plan;
- 2) Risk assessments that provide the factual basis for activities proposed in the strategy portion of the mitigation plan;
- 3) A Mitigation Strategy that provides the state's blueprint for reducing losses identified in the risk assessment;
- 4) A section describing Coordination of Local Mitigation Planning;
- 5) A Plan Maintenance Process, including a method and schedule for monitoring, evaluating and revising the plan; a system for monitoring implementation of mitigation strategies and projects; and a system for reviewing progress in achieving goals, objectives and strategies as well as project implementation;
- 6) A Plan Adoption Process for formal adoption by the State Prior to submittal to FEMA for final review and approval; and
- 7) Assurances that the State will comply with all applicable Federal statutes and regulations in effect with respect to grant funding periods, in compliance with 44 CFR 13.11(c). The state must amend its plan whenever needed to reflect changes in state or federal laws and statutes as required by 44 CFR 13.11 (d).
- 8) Revisions to plans per guidance issued January 14, 2008 must include a program strategy is required for state eligibility for 90% federal funding for the Severe Repetitive Loss Program for FY 2008 and the Flood Mitigation Assistance Program for FY2009. Plan revisions must in compliance with 44CFR201.4.

44 CFR Part 206

On February 26, 2002, FEMA also changed 44 CFR Part 206 in order to implement DMA 2000 (See 67 *Federal Register* 8844 [February 26, 2002]). Changes to 44 CFR Part 206 authorize hazard mitigation grant program funds for planning activities and increase the amount of HMGP funds available to states that develop an Enhanced Mitigation Plan. FEMA amended Part 206 in 2006 following the passage of the Katrina Reform Act which restored HMGP funding to 15% of eligible disaster recovery costs for states with approved Standard Mitigation Plans.



In addition, through 44 CFR § 206.400, states receiving any disaster assistance funding under the Stafford Act must conduct repairs or construction funded by a disaster loan or grant in accordance with applicable standards such as the minimum standards of the National Flood Insurance Program (NFIP) and standards substantially equal to the recommended provisions of the National Earthquake Hazards Reduction Program (NEHRP). See Appendix C for the Stafford Act planning regulations.



Virginia Capital, Richmond, Virginia

1.3 Assurances & Adoption

The plan serves as Volume 2, Support Annex 3: *Standard and Enhanced Hazard Mitigation Plan of the Commonwealth of Virginia Emergency Operations Plan*; and is adopted as part of the complete *Commonwealth of Virginia Emergency Operations Plan* by the Governor with Executive Order Number Sixty-Five (2004). In addition, the plan has been cross-walked through the Emergency Management Accreditation Program (EMAP) and has been deemed consistent with the standards of EMAP relative to hazard mitigation. The Commonwealth of Virginia's Emergency Management Programs achieved accreditation through the EMAP on November 11, 2005. This accreditation included the three hazard mitigation measures.

§44-146.17. Powers and Duties of the Governor.

The Governor shall have, in addition to his powers hereinafter or elsewhere prescribed by law, the following powers and duties:

(1)...He may adopt and implement the Emergency Operations Plan, which provides for state-level emergency operations in response to any type of disaster or large-scale emergency affecting Virginia and that provides the needed framework within which more detailed emergency plans and procedures can be developed and maintained by state agencies, local governments and other organizations.

(2) To appoint a State Coordinator of Emergency Management and authorize the appointment or employment of other personnel as is necessary to carry out the provisions of this chapter, and to remove, in his discretion, and all persons serving hereunder;

§44-146.22. Development of measures to prevent or reduce harmful consequences of disasters.

In addition to disaster prevention measures included in state, local and inter-jurisdictional emergency operations plans, the Governor shall consider, on a continuing basis, hazard mitigation or other measures that could be taken to prevent or reduce the harmful consequences of disasters. At his direction, and pursuant to any other authority, state agencies, including, but not limited to, those charged with responsibilities in connection with floodplain management, stream encroachment and flow regulation, weather modification, fire prevention and control, air quality, public works, land use and land-use planning, and construction standards, shall make studies of disaster prevention. The Governor, from time to time, shall make recommendations to the General Assembly, local governments, and other appropriate public and private entities as may facilitate measures for prevention or reduction of the harmful consequences of disasters.

The Code of Virginia § 44-146.17 allows the Governor to appoint an Emergency Coordinator to carry out all provisions of the Code of Virginia relating to emergency preparedness, response and recovery.

*The Code of Virginia § 44-146.22 specifically authorizes the Governor to consider hazard mitigation measures to prevent or reduce the harmful consequences of disasters. The Governor is expected to make recommendations to the General Assembly, local governments, and appropriate public and private entities. This Plan supercedes the hazard mitigation plan developed in 2001 and revised and approved in 2004 and March 14, 2007. It constitutes Volume 2, Support Annex 3 of the multi-volume *Commonwealth of Virginia Emergency Operations Plan*.*

The Commonwealth of Virginia, Department of Emergency Management, pledges that it will:

1. Comply with all applicable Federal statutes and regulations in effect with respect to periods for which it receives grant funding, in compliance with 44 CFR 13.11(c); and
2. Amend this plan whenever necessary to reflect changes in State or Federal laws and statutes as required in 44 CFR 13.11(d).

1.4 Planning Team

Funding assistance for the preparation and printing of this plan was provided by the Federal Emergency Management Agency (FEMA) and is prepared in accordance with appropriate regulations and guidance provided by that agency.

This plan was completed with planning assistance and support by the mitigation program staff at the Virginia Department of Emergency Management (VDEM). Staff from FEMA Region III offices provided additional technical assistance and plan review. The Virginia Tech Center for Geospatial Information Technology (CGIT) performed the hazard and risk identification and the vulnerability analysis. In addition, the Center's staff supported the plan web site that was used to solicit mitigation project worksheets. The project and strategy prioritization process was managed by the Center.

The University of Virginia Institute for Environmental Negotiation provided facilitation to the final two State Steering Committee meetings and collaborated on development of project ranking protocols.



Technical mapping, hazard, and vulnerability analyses were accomplished by VDEM and CGIT staff using ESRI ArcGIS 8.2 software, with spatial data provided by the Virginia Geographic Information Network (VGIN), the United States Geologic Survey (USGS), the National Weather Service (NWS), the Virginia Department of Treasury Division of Risk Management (VDT-DRM) and the Virginia Department of Forestry (DOF).

Critical to the development of the plan was the participation and contributions of more than 105 state and federal agencies, non-profit organizations and Virginia colleges and universities. Representatives attended four meetings of the State Hazard Mitigation Steering Committee, provided critical facilities data, submitted hazard mitigation strategies and projects, ranked activities and reviewed the plan draft. In addition, many of these Steering Committee participants will continue to serve ongoing hazard mitigation sub-committees that will guide and direct implementation of this plan. In addition, their support will determine continued data and information required for future plans that must integrate human-caused hazards into the current hazard identification and vulnerability assessment. Table 1-2 provides a list of organizations that provided valuable input to the plan. A full description of the planning process follows in Chapter 2 *Planning Process*. A full listing of the Mitigation Steering Committee may be found in Appendices D and I.

Table 1-3 State Hazard Mitigation Steering Committee

Agriculture & Consumer Services	Department of Transportation	Virginia Capitol Police
American Red Cross	Department of Treasury	Virginia Center for School Safety
Chesapeake Bay Commission	Dispute Resolution Center	Virginia Code Commission
Chesapeake Bay Foundation	Emergency Management Office	Virginia College Savings Plan
Chesapeake Bay Local Assistance Department	Norfolk District, Corps of Engineers	Virginia Commonwealth University
Chesapeake Bay Program	Facilities Services & Planning Administration	Virginia Community College System
College of William and Mary	Federal Emergency Management Agency	Virginia Community Policing Institute
Compensation Board	Frontier Culture Museum of Virginia	Virginia Cooperative Extension
Department for the Aging	James Madison University	Virginia Department of Emergency Management
Department of Agriculture and Consumer Services	Jamestown-Yorktown Foundation	Virginia Drought Monitoring Task Force
Department of Business Assistance	Motor Vehicle Dealer Board	Virginia Economic Development Partnership
Department of Conservation and Recreation	National Park Service	Virginia Employment Commission
Department of Corrections	National Weather Service	Virginia Ground Water Protection Steering Committee
Department of Education	Norfolk State University	Virginia Housing Development Authority
Department of Environmental Quality	Office of Commonwealth Preparedness	Virginia Information Technology Agency
Department of Fire Programs	Office of the Attorney General	Virginia Marine Resources Commission
Department of Forestry	Office of the Governor	Virginia Municipal League
Department of General Services	Richard Bland College	Virginia Museum of Fine Arts
Department of Health	Salvation Army	Virginia National Guard
Department of Health Professions	Southwest Virginia Higher Education Center	Virginia Port Authority
Department of Historical Resources	State Corporation Commission	Virginia Resources Authority
Department of Homeland Security	State Corporation Commission	Virginia Save Our Streams
Department of Housing and Community Development	Transportation Research Council	Virginia State Climatology Office
Department of Juvenile Justice	United States Army Corps of Engineers	Virginia State Police
Department of Labor and Industry	United States Department of Agriculture	Virginia State University
Department of Mental Health, Mental Retardation & Substance Abuse Services	United States Department of the Interior	Virginia Tech Environmental Health & Safety Services
Department of Military Affairs	United States Geological Survey	Virginia Tech
Department of Mines, Minerals and Energy	University of Virginia	Virginia Tourism Authority
Department of Planning and Budget	University of Virginia at Wise	Virginia Volunteer Organizations Active in Disaster (VOAD)
Department of Professional & Occupational Regulation	URS Corporation	Virginia Water Monitoring Council
Department of Rail and Public Transportation	Virginia Association of Counties	Workers' Compensation Commission
Department of Taxation	Virginia Association of Planning District Commissions	Virginia Tech Environmental Health & Safety Services
Department of the Blind and Vision Impaired	Virginia Association of Soil and Water Conservation Districts	Virginia Tech
Virginia Water Monitoring Council	Virginia Association of Zoning Officials	Virginia Tourism Authority
Worker's Compensation Commission	Virginia Biotechnology Research Park	Virginia Volunteer Organizations Active in Disaster (VOAD)
	Department of Transportation	



1.5 State Hazard Mitigation Plan Coordination

VDEM Mitigation Planning Manager

Deborah Mills, State Hazard Mitigation Program Manager

VDEM Mitigation Program Staff

Robert Coates, Mitigation Planning Coordinator

Debbie Messmer, Hazard Mitigation Grant Coordinator

Philip Hunt

Matthew Wall

Virginia Polytechnic Institute Center for Geospatial Information Technology Staff

Rachael Herman Heltz, Project/GIS Specialist

FEMA Region III, Community Mitigation Division

Therese Grubb

Robert Linck

Michael Shuler

Joseph Zagone



1.6 Overview of Plan

Each chapter begins with the appropriate requirements from the Disaster Mitigation Act of 2000 to provide reference and context to the issues discussed within the chapter. A brief introduction to the section is followed by relevant information, charts, tables, and maps, which fulfill regulation requirements. The main chapters of the plan follow primary requirements of the hazard mitigation planning law:

Chapter 2.0 Planning Process describes the activities and work of the State Hazard Mitigation Steering Committee, VDEM staff, Virginia Tech and the University of Virginia. The plan participants, planning process, planning products and relevance to other related plans or Commonwealth functions is described.

Chapter 3.0 Hazard Identification and Risk Assessment has three primary components. A description of the Commonwealth is provided that includes:

- population distribution and characteristic
- business and industry
- agriculture
- locations of state government facilities, including those deemed critical

Natural hazards affecting the state are identified, including:

- descriptions and histories of hazards
- assessment of geographic extent and risk of hazards
- hazard specific loss estimation for state facilities

A summary assessment of the potential losses and risks is provided. A HIRA revision to support a new vulnerability assessment was initiated in late 2005 to incorporate data from local and regional plan HIRAs. This will be continued as an ongoing process as resources become available.. A similar DRU database will be created as DRU plans are completed. Loss estimation data provided from approved local and regional hazard mitigation plans is being uploaded into the state's hazard mitigation database.

Chapter 4.0 Hazard Mitigation Strategy has multiple components. The Commonwealth's capability to respond to assessed hazards is described. A listing of limitations of the planning process, data and analysis methods used in the plan is discussed, along with provisions for the 2007 plan revision. The Chapter 3.0 vulnerability assessment influenced development of the hazard mitigation vision, goals and objectives necessary to reduce the risk from hazards across the state to specific state facilities and citizens. The final section presents the program strategies and projects ranked "critical" and "high" for importance to reduce exposure to hazards. A complete listing of projects and strategies is presented in Appendix H. A state planning data base of local and regional goals, objectives and strategies has been created that reflects the mitigation measures detailed in each of the 27 local or regional plans

Chapter 5.0, Coordination with Local Mitigation Planning Efforts, describes a comprehensive three-year process to engage all Virginia communities in hazard mitigation planning. To date, 27 plans have been funded and drafted. Twenty-two have been fully adopted and approved by FEMA, four are conditionally approved with the local adoption process underway and one plan has completed its HIRA and has begun mitigation strategy development. Finally, seven Disaster Resistant University planning processes are underway or completed for Radford, Virginia State, Virginia Tech, Old



Dominion, George Mason Universities as well as the University of Mary Washington and the University of Virginia.

Chapter 6.0, *Plan Maintenance, Implementation and Adoption*, outlines implementation of the plan and development of the anticipated 2007 plan revision. Processes used to maintain and update data and information contained in the hazard identification and vulnerability assessment databases are described. Plan adoption and revision are also described, augmented with a timeline. This chapter has been expanded to detail 18-month progress review and plan revisions that have occurred since the plan was approved in late 2004.

Chapter 7.0 *Enhanced Plan* follows provisions in the Stafford Act for additional Funding through development and approval of an Enhanced Plan. The Enhanced Plan chapter is supported by Enhanced Appendices. The Enhanced Plan was submitted to FEMA August 26, 2005, revised and re-submitted June 22, 2006. Final submittal included the Standard Plan revision and was re-submittal November 6, 2006; approval was gained March 14, 2007 for Enhanced Plan status.

Appendices may be found immediately following the plan. These provide detailed listings and agendas from each Steering Committee meeting, details on hazard identification and vulnerability assessment as well as the complete listing of agency-proposed goals, objectives and supporting strategies and proposed projects. The strategies and projects are each given a priority rating of "Critical," "High," "Medium," and "Low."

Standard Plan Appendices:

Appendix A includes a list of acronyms used in the plan.

Appendix B includes a glossary of definitions for terms used in the *Commonwealth of Virginia Hazard Mitigation Plan*.

Appendix C presents the federal legislation directing the planning process.

Appendix D provides profiles of major state and federal agencies and private non-profit organizations that participated during the planning process.

Appendix E contains documentation regarding the four State Steering Committee meetings conducted from July 2003 through July 2004.

Appendix F includes tables and documentation of the hazard and risk identification process; the vulnerability assessment and potential loss estimates are also included.

Appendix G provides summary information regarding development of the 29 local mitigation plans approved or under development by regional planning district commissions, regional groups and individual cities, counties or towns.

Appendix H is the comprehensive list of the four goal areas, supporting objectives, strategies and projects as prioritized by members of the State Steering Committee.

Appendix I provides the complete listing of those contributed to this plan through participation in the planning process.

Appendix J contains the Virginia Standard State Hazard Mitigation Plan Crosswalk document.

Appendix K includes the *Virginia Emergency Operations Plan*; *Appendix 9: HAZARD MITIGATION GRANT PROGRAM Administration Plan*

Enhanced Appendices:

Appendix 1 is the Standard Plan approval letter dated September 28, 2004 from Acting Regional Director Patricia Arcuri to State Coordinator Michael M. Cline. The March 14, 2007 approval letter for the Enhanced Plan is also included.



Appendix 2 contains five Benefit-Cost analysis examples for multi-structure projects performed by VDEM staff.

Appendix 3 contains documentation of the VDEM grant application process, including the application and project ranking sheets used by the Structural Mitigation Subcommittee.

Appendix 4 provides examples of quarterly reports.

Appendix 5 outlines the project closeout schedule.

Appendix 6 examines cost-avoidance procedures.

Appendix 7 provides examples of workshop materials, particularly the Elevation Workshop manual developed for local governments sponsoring DR1491VA Hurricane Isabel elevation projects.

Appendix 8 provides a copy of the Commonwealth of Virginia budget bill and an example of a post-disaster decision brief which allows for a 20% HMGP match from funds “sum-sufficient” per *The Code of Virginia*.

Appendix 9 includes the disaster recovery FEMA-Commonwealth Mitigation Strategies for DR1491VA – Isabel and DR1544VA – Gaston.

Appendix 10 is the revised Enhanced Plan Crosswalk.

Appendix 11 is the local and regional plan data base of mitigation strategies.

Appendix 12 provides a summary listing of the Mitigation Database of the more than 1,200 properties statewide that have been mitigated through FEMA-Commonwealth mitigation programs during the past two decades.

Appendix 13 is the DCR Floodplain Management Plan.